FIG.1

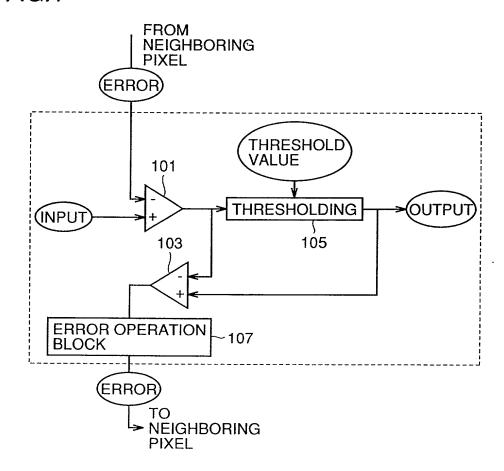


FIG.2

			Х	3	2	1
1	2	3	3	3	2	1
1	2	2	2	2	2	1
1	1	1	1	1	1	1

FIG.3

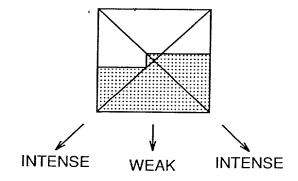


FIG.4

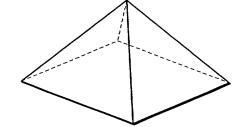


FIG. 5

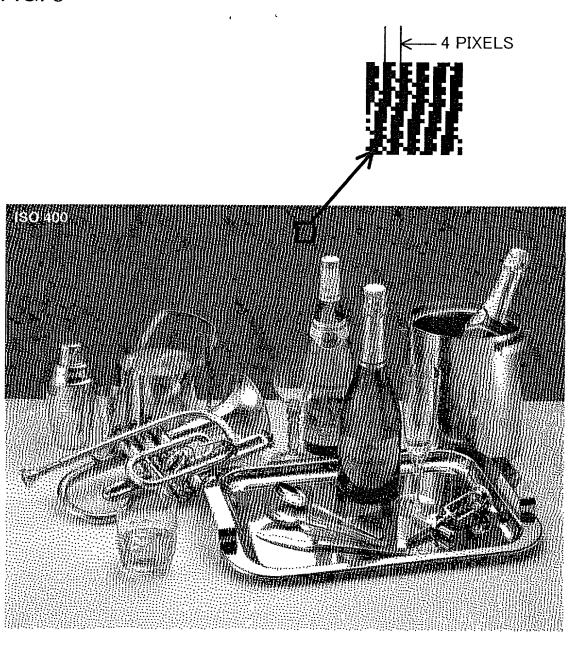
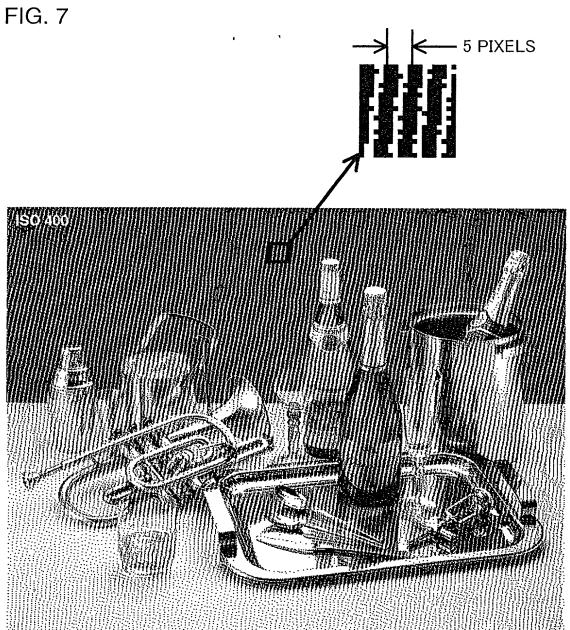
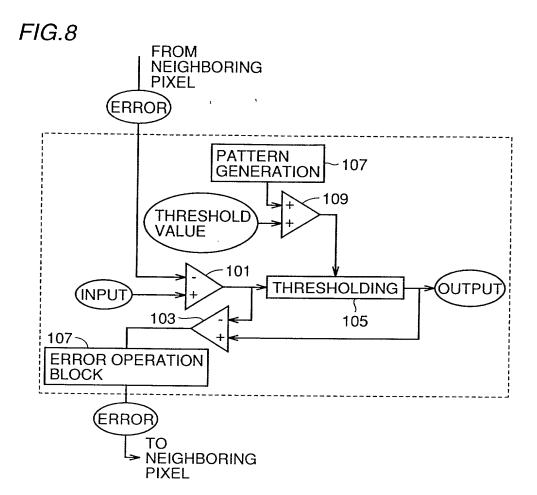


FIG.6

				Х	4	3	2	1	
 1	2	3	4	4	4	3	2	1	
1	2	3	3	3	3	3	2	1	
1	2	2	2	2	2	2	2	1	
1	1	1	1	1	1	1	1	1	





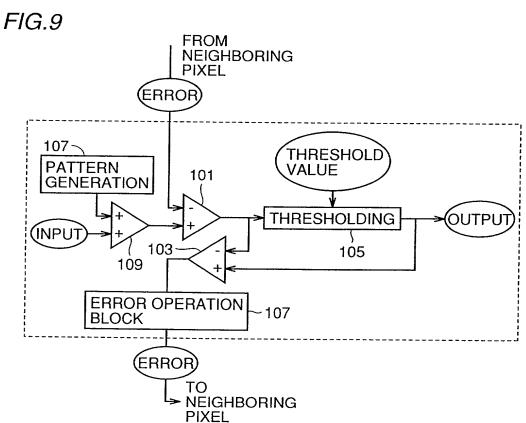
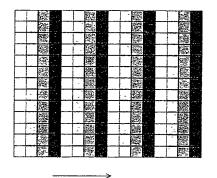


FIG. 10



PATTERN SIGNAL

= P (i%4 - 1.5) / 4

P: MAGNITUDE OF SIGNAL

i: PIXEL NUMBER

i%4: REMAINDER OF i DIVIDED BY 4

ITH PIXEL

P = 0.1 (INPUT = 0 TO 1)

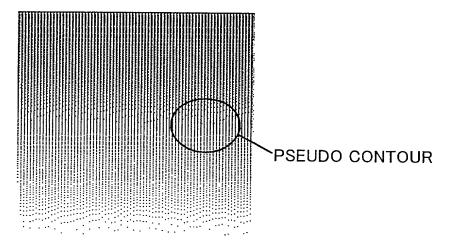
FIG. 11



FIG. 12



FIG. 13



AIN WITH REMAINDER OF 0 (TRAIN MOST PRONE TO HAVE DOT)
RAIN WITH REMAINDER OF 1
TRAIN WITH REMAINDER OF 3
TRAIN WITH REMAINDER OF 3
TRAIN WITH REMAINDER OF 3
TRAIN WITH REMAINDER OF 0

PATTERN SIGNAL APPLIED TO THRESHOLD VALUE = P (j%4 - 1.5) / 4

P: MAGNITUDE OF SIGNAL i: PIXEL NUMBER

i%4: REMAINDER OF i DIVIDED BY 4

(P IS APPROXIMATELY 0.1)

PIXEL OF ITH TRAIN

FIG.15

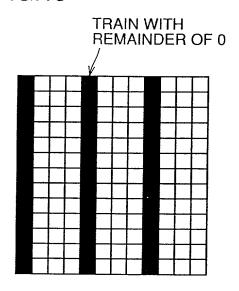


FIG.16

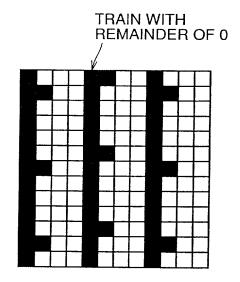


FIG.17

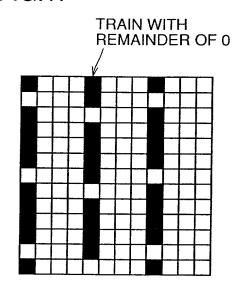


FIG. 18

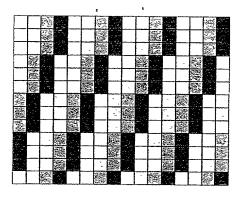


FIG. 19

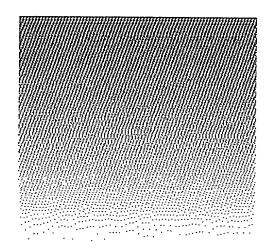


FIG. 20

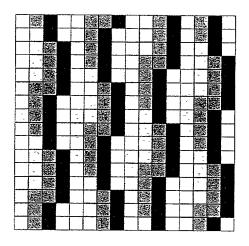


FIG.21

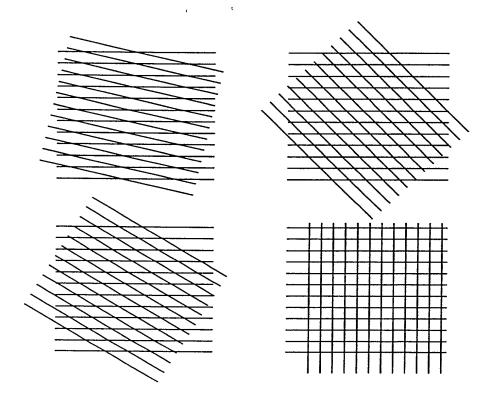
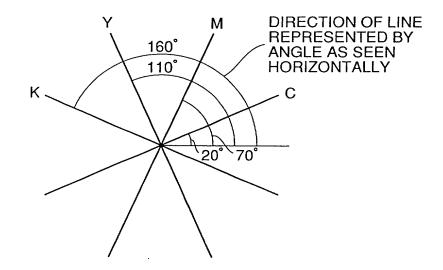
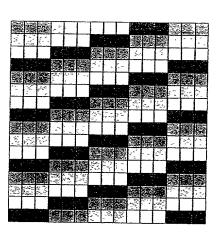


FIG.22





LINE PATTERN SIGNAL APPLIED TO THRESHOLD VALUE

= P × ((- i / 3 + j)%4 - 1.5) / 3 i, j: PIXEL OF ITH ROW AND JTH COLUMN P: MAGNITUDE (OF 0.1 HEREIN) %4: REMAINDER OF DIVISION BY 4

FIG. 24

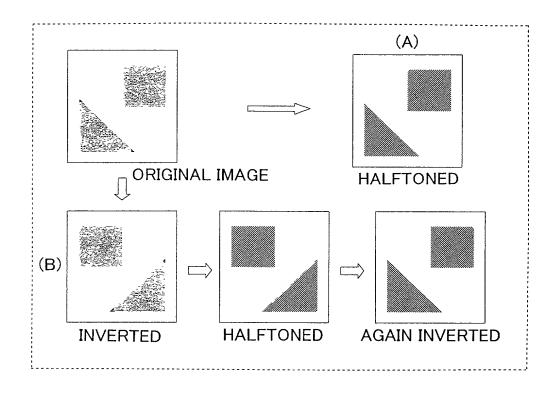
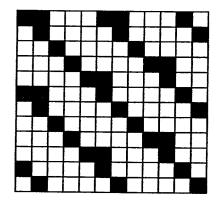
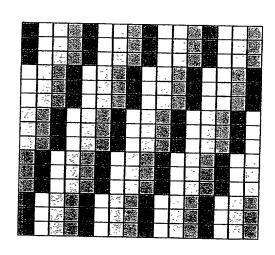


FIG.25

L				Х	4	3	2	1	
	1	2	3	4	3	2	1		
		1	2	3	2	1			
			1	2	1				
				1					

FIG.26

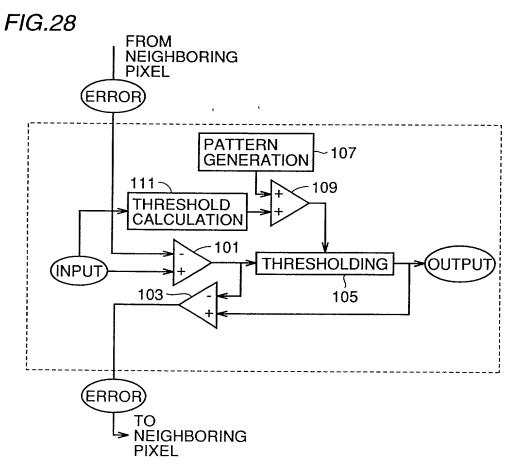




LINE PATTERN SIGNAL APPLIED TO THRESHOLD VALUE

=  $P \times ((i - j / 3)\%4 - 1.5) / 3$ i, j: PIXEL OF ITH ROW AND JTH COLUMN P: MAGNITUDE (OF 0.15 HEREIN)

REMAINDER OF DIVISION BY 4



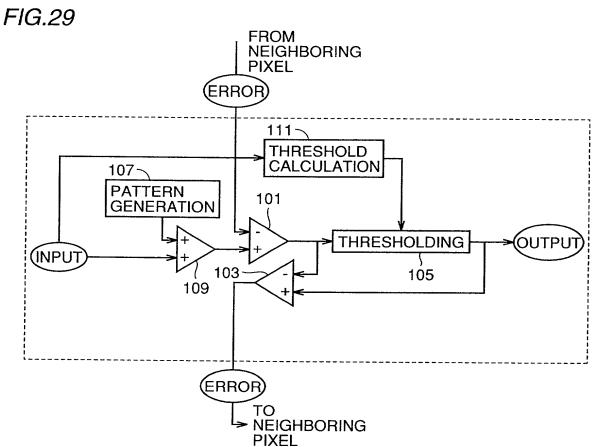


FIG.30

